

22. The composition of claim 1, wherein the microcapsule (s) further comprise(s) an active ingredient in the aqueous core.

23. The composition of claim 22, wherein the active ingredient is selected from the group consisting of polypeptide(s), non-peptide polymers, cells and fragments thereof, pharmaceutical agents, dyes, labeling agents, agricultural agents, animal health agents, magnetic materials, image-enhancing materials, pesticides, pheromones, photo-protective agents, and pigments.

24. The composition of claim 23, wherein the active ingredient comprises a polypeptide selected from the group consisting of glucose 6-phosphate dehydrogenase, calcitonin, erythropoietin, hemoglobin, interleukin, somatotropin, asparaginase, insulin, lactase, cellulose, trypsin, lipase, collagenase, streptodornase, streptokinase, tissue plasminogen activator, and *B. thuringiensis* larvicidal proteins.

25. The composition of claim 23, wherein the active ingredient comprises a non-peptidic macromolecule selected from the group comprising of heparin, analogs thereof, and anti-sense nucleotides.

26. A composition of claim 23, wherein the active ingredient comprises cells selected from the group consisting of pancreatic islet cells, hepatocytes, thyroid cells, parathyroid cells, gonadal cells, adrenocortical cells, and interleukin- and other immunomodulator-secreting cells.

27. The composition of claim 23, wherein the active ingredient comprises a pharmaceutical agent selected from the group consisting of anti-neoplastic agents, radionucleides, anti-inflammatory agents, antibiotics, anti-fungal agents, anti-helminthic agents, anti-protozoal agents, and anti-hypoglycemic agents.

28. The composition of claim 27, wherein the pharmaceutical agent(s) is selected from the group consisting of carbenacyllin, doxorubicin, naproxin, fluorouracil, prednisolone, indomethacin, tetracycline, theophylline, amphotericin B, ketoconazole, griseofulvin, diethylcarbamazine, ivermectin, praziquantel, chloroquin, pyramethamine, quinine, and nicotinamide.

29. The composition of claim 23, wherein the active ingredient comprises dyes or pigments selected from the group consisting of dextran blue, phenol red, chlorophyll, eosin, erythrosin, fluorescein, rhodamine, Texas red; and trypan blue.

30. The composition of claim 1, wherein the microcapsule (s) has (have) a diameter of about 0.1 to 2,000 microns.

31. The composition of claim 30, wherein the microcapsule(s) has (have) a diameter of about 0.1 to 10 microns.

32. The composition of claim 30, comprising a plurality of the microcapsules, the microcapsules having a particle size distribution within a standard deviation from the median volume diameter of less than about 20 %.

33. The composition of claim 1, in lyophilized form.

34. The composition of claim 1, wherein the microcapsule (s) further comprise(s) an enteric coating.

35. The composition of claim 34, wherein the enteric coating comprises a material selected from the group consisting of cellulose acetate phthalate, hydroxypropylmethylcellulose phthalate, polyoxyethylene-cross-linked polyacrylic acid, polyoxyethylene cross-linked polymethacrylic acid, polyvinyl acetate, glyceryl monostearate, and homologs thereof having a water solubility of less than about 50 mg/l at 37° C.

36. The composition of claim 1, obtained by a method comprising suspending aqueous core microcapsules, whose walls comprise a reaction product of an anionic polymer and a monomer having a plurality of amine residues, the walls also having an excess of either anionic or amine residues, in an aqueous medium, and contacting at least one peptide(s) to the microcapsules under conditions effective to attach the peptide(s) to the excess residues on the microcapsule walls and obtain peptide-carrying microcapsules.

37. The composition of claim 1, in the form of a kit further comprising instructions for its use.

38. The composition of claim 1, wherein said monomer is mixed with at least one monoamine.

39. The composition of claim 1, wherein said capsular wall is the reaction product of the salt forms of one or both of said anionic polymer and said polyamine monomer.

40. The composition of claim 2, wherein said monomer is mixed with at least one monoamine.

41. The composition of claim 36, wherein said monomer is mixed with at least one monoamine.

42. The composition of claim 36, wherein said capsular wall is the reaction product of the salt forms of one or both of said anionic polymer and said polyamine monomer.

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